REMARKS

Upon entry of the instant Amendment, Claims 1-5, 7, and 9-13 are pending. Claims 1, 5, 7, and 9 have been amended, and claim 13 has been added, to more particularly point out Applicants' invention. Claims 6 and 8 have been canceled. Claim 3 has been amended to overcome the Section 112 rejection. The drawings have been amended to obviate the objection to FIG. 1.

The figures were objected to because of the absence of the label "Prior Art" in FIG. 1. FIG. 1 has been amended to add the label; it is noted, however, that the teachings of the present invention are applicable in a system such as that illustrated in FIG. 1. No new matter has been added.

Claim 3 was rejected under 35 U.S.C. 112, second paragraph, as being unpatentable for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In particular, the term echo signals was indicated to lack antecedent basis. Claim 3 has been amended to recite "echo components" which find antecedent basis in claim 1. As such, the Examiner is respectfully requested to reconsider and withdraw the rejection of the claims.

Claims 1-12 were rejected under 35 U.S.C. §102(b) as being anticipated by Knittle et al., U.S. Patent No. 5,761,638 (Knittle"). In order for there to be anticipation, each and every element of the claimed invention must be present in a single prior reference. Applicants respectfully submit that the claimed invention is not taught, suggested, or implied by Knittle.

As discussed in the Specification, the present invention relates to echo cancellation, particularly in a modem. Thus, a modem according to one implementation of the present invention includes an echo canceller adapted to determine locations of far end echo sources. A training signal at a predetermined modem training frequency is sent from the modem to the second modem in the link. The return signal is then sampled by the sending modem. Any far end echoes manifest

themselves as sine waves at the modem training frequency, delayed in time. The time difference between the peak of the training signal and the echo signals is used to determine the echo delay. The echo delay is then used to compensate for the echo when transmissions occur.

Thus, claim 1 has been amended to recite "a signal detector adapted to receive a signal, the signal including a data component and one or more echo components, said one or more echo components comprising one or more far end echo components, said data component comprising a return signal from a remote modem," and "an echo cancellation unit adapted to cancel one or more echoes at said modem once said delays have been identified." Claim 5 has been amended to recite "receiving a return signal, said return signal comprising said training sinuosoid received from said remote modem and one or more echo signals having substantially the same frequencies as said training sinusoid" and "canceling echoes based on said delays at a transmitting modem." Claim 7 has been amended to recite "means responsive to said transmitting means for receiving a return signal, said return signal comprising said training sinuosoid received from said remote modem and one or more echo signals having substantially the same frequencies as said training sinusoid" and "means for canceling echoes based on said delays at a transmitting modem." Claim 9 has been amended to recite "receiving a signal at a modem, the signal including a data component received from a remote modem and one or more echo components" and "cancelling one or more echoes at said modem once said delays have been identified."

In contrast, Knittle relates to a voice recognition system 10 that provides for echo cancellation determination once a call has been received at it by a user device 25. It does not appear, however, to have anything to do with echo cancellation performed by an end user such as a transmitting modem. That is, embodiments of the present invention allow a user to call a remote modem at any location and thereby perform echo cancellation. Knittle, however, being the called party (i.e., the voice recognition system), is at a fixed location and thus is relatively more limited. Because Knittle

relates, inter alia, to echo cancellation at a called party rather than a transmitting party, the Examiner is respectfully requested to reconsider and withdraw the rejection.

For reasons similar to those discussed above, Applicants respectfully submit that claim 13 is likewise allowable.

For all of the above reasons, Applicants respectfully submit that the application is in condition for allowance, which allowance is earnestly solicited.

Date: 8/4/03

Respectfully submitted,

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Annotated Sheet Showing Changes

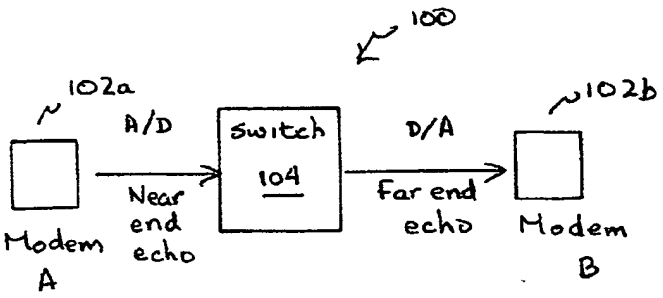

FIG. 1 (Prior Art)

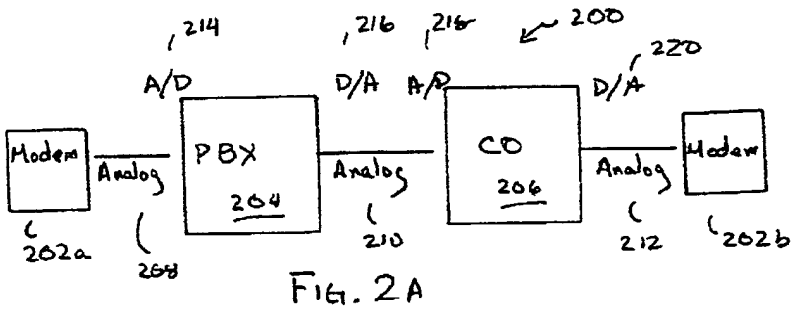

FIG. 2A

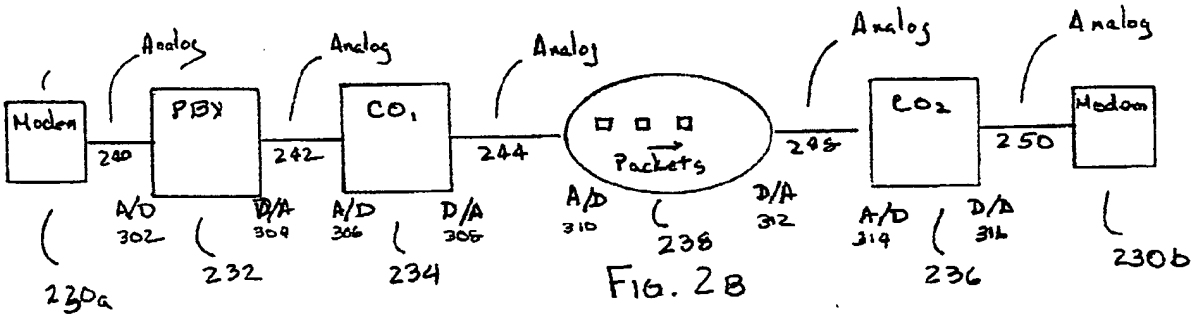

FIG. 2B

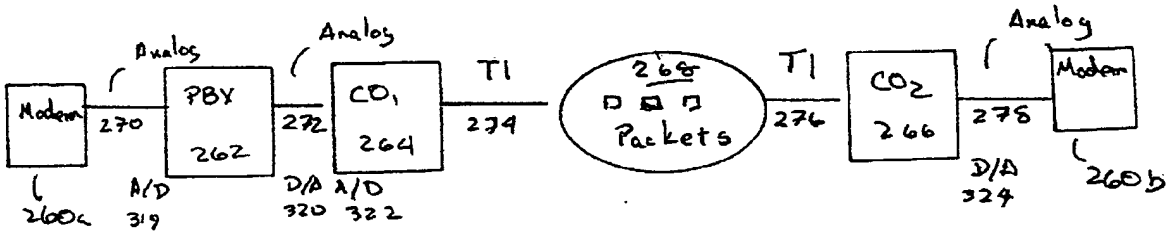

FIG. 2C